IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 22, Issue 4. Ser. III (April. 2020), PP 12-18
www.iosrjournals.org

Risks in Indian Banking Sectors and role of RBI: an Analysis using CAMELS Model

Anubhav Kumar

Abstract: *The changing economic environment exposes the banks to various risks. Banks are important for development of an economy. Banking sector helps in stimulation of capital formation, innovation and monetization in addition to facilitation of monetary policy. It is imperative to carefully evaluate and analyse the performance of banks to ensure a healthy financial system and an efficient economy. The following study attempts to evaluate the performance of 3 private sector banks and 3 public sector banks in India using CAMELS Model for a period of 5 years 2015-2019.*

Date of Submission: 22-03-2020 Date of Acceptance: 09-04-2020

I. Introduction

Risk management in the world of Finance is identifying potential risk in advance and analyzing them to take precautionary measure to curb the risk. The advancement of Indian economy from developing to developed economy has allowed the Financial sector, especially the Banking sector to flourish but has also exposed them to a lot of risks and hence risk management. In banks risk is considered to be the most important factor of earnings. Therefore, we can say management of banks is nothing but management of risk. Managing financial risk becomes more important because of rising global competition, increased deregulations and introduction of innovative products and delivery channel in the present financial landscape has pushed risk management to the forefront. The ability of a bank to assess the risk and take appropriate action will be the key to its success. It can be easily stated that risk takers will survive and effective risk managers will prosper and risk averse will perish.

Types of Risk in the Banking Sector

Liquidity Risk

Risk that arises when a bank is not able to meet short term financial demands. Liquidity risk further gets classified into three types. (a) Funding risk arises when a bank is unable to obtain funds to meet cash flow obligations. (b) Time Risk arises when performing assets turn non-performing i.e. non receipt of expected cash inflow. (c) Call Risk arises due to the realization of contingent liabilities.

Market Risk

It arises due to unfavorable fluctuation due to market movement during the period required to square off the transaction. This risk results from unfavourable movements in the level or volatility of the market prices of interest rate instruments, equities, commodities, and currencies.

Credit Risk

It is simply the potential of a borrower to fail to meet his/her obligations according to the terms. For most of the Indian banks advances are the main sources of credit risk. It is one of the most important risk because of the increasing NPA's in the Indian Banking industry. It is further classified into two types. (a) Counterparty risk is solely related to non-payment on the borrowers side. (b) Country risk arises when a borrower is unable to pay his/her obligations due to restrictions imposed by a country.

Causes of Risk in the Banking Sector

Non-Performing Assets

Banks make a chunk of their revenues from the interest received on money advanced as a loan. However, the advancement of money as credit carries a risk of non-payment or failure on the borrower's side willingly or unwillingly.

The loans on which payment is not received is classified as Non-Performing assets and they affect the profitability and stability of the bank. If the dues in the form of principal and interest is not received for a period of 90 days then it is termed as NPA. Figure 1 below depicts the NPA percentage of the scheduled commercial banks in India.

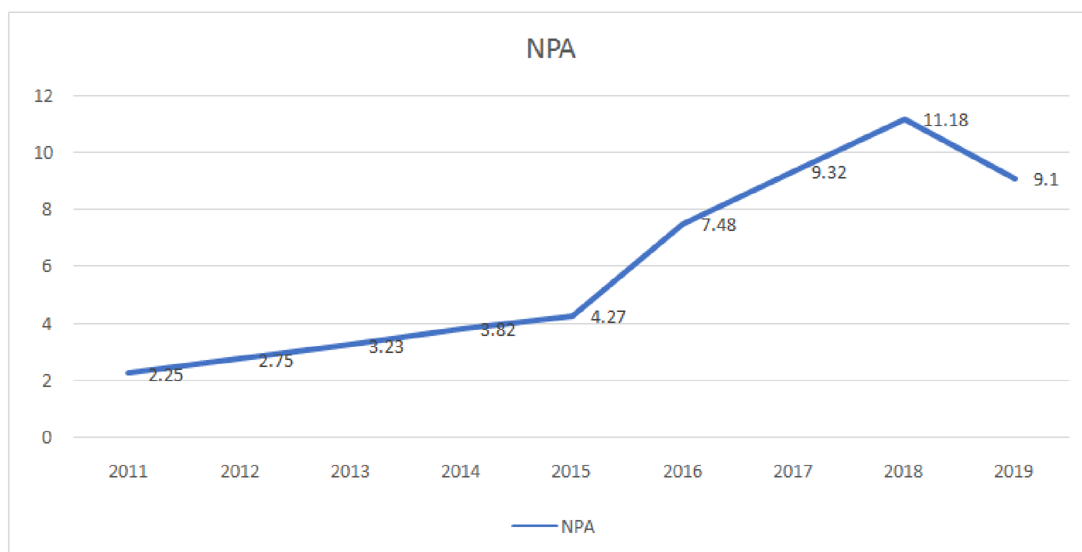

Figure 1

Interest Rate

Interest rate is another source of risk to Indian banks. Neither the banks nor the RBI decides the interest rate it is based upon the macroeconomic conditions. The interest rates are sensitive to many factors which are beyond control like both domestic and foreign economic conditions and monetary and fiscal policies of various regulatory authorities. The net income of a bank is affected by the change in market interest rates. An increased interest rate can lead to reduction in the ability of borrower to repay their current obligations which could lead to defaults, foreclosures and write-offs.

Risk Management Procedure

Role of RBI in Risk Management in Banks
RBI uses the tool CAMELS for evaluating the financial soundness of the banks. CAMELS consists of six different tools:-

- Capital Adequacy
- Asset Quality
- Management Quality
- Earning Quality
- Liquidity
- Sensitivity to Market Risk

1) Capital Adequacy determines the ability of the banks in taking up losses. RBI tracks a banks CAR. The Basel II norms require a CAR of 8% and RBI requires it to be 9%. The four ratios to track Capital Adequacy are:

a) CAR Ratio: (Tier 1 capital + Tier 2 capital/Risk Weighted Assets) X 100
The highest CAR ratio is preferred and is ranked 1.

b) Debt to Equity Ratio: (Total liabilities/Shareholder's equity)X 100
Lower debt to equity ratio will be preferred and will be ranked 1.

c) Advances to Total Asset Ratio: (Advances/Total Assets) X 100
The larger the ratio the better the profit and is ranked 1.

d) Government Securities to Total Investment Ratio: (Government Securities/Total Investment) X 100
Higher proportion of this ratio will always be favored.

2) Asset Quality is used to assess the credit risk that is attached in with a particular asset and how effectively the organization is working in monitoring the credit risk. It also measures the total NPA present in total assets. The following ratios are used to ascertain asset quality:

a) Net Non-Performing assets to Total Assets Ratio: (NNPA/Total Assets) X 100
If a borrower willingly or unwillingly is unable to repay the interest or principal of the loan taken for a period of 90 days it is considered non-performing. It helps in identifying a banks effectiveness in ascertaining credit risk. The lower this ratio the better.

b) Gross Non-Performing to Total Assets Ratio: (GNPA/Total Assets) X 100
Gross Non-Performing Assets is the total defaults before the banks makes a provision for a bad loan. The lower this ratio the better.

c) Net Non-Performing Assets to Net Advances Ratio: (NNPA/Total Advances) X 100
Here a ratio of Net Non-Performing Assets and total loans is taken. Lower ratio will be preferred here. It shows the total bad loan against total loans.

d) Gross Non-Performing Assets to Net Advances Ratio: (GNPA/Total Advances) X 100
Here Gross Non-Performing Assets are taken i.e. NPA before adding provisions.
Lower ratio is always preferred.

3) Management Efficiency is the ability of the management to detect, calculate and manage risk. This ratio takes the subjective analysis to evaluate the effectiveness and efficiency of the management. The following ratios are used:

a) Business per Employee: Total Deposits and Advances/Number of Employees
This ratio shows how the business uses its human resource. The higher the ratio the better it is.

b) Profit per Employee: Net Profit/Number of Employees
This ratio shows the employees contribution towards the profits of the bank. The larger ratio is always preferred.

c) Return on Assets: (Net Income/Total Assets) X 100
This ratio calculates the profitability of a bank when compared to its total assets. The higher the ratio the better it is.

d) Return on Equity: (Net Income/Shareholder's Wealth) X 100
This ratio indicates how much funds invested by the banks have been converted into income. Higher ratio is always preferred.

4) Earning Quality indicates the profitability of a bank. The following ratios are counted to determine the banks earning:

a) Dividend Payout Ratio: (Dividend per Share/Earning per Share) X 100
This ratio indicates the percentage of earnings that has been given to the shareholders as dividend. Higher ratio will be favored.

b) Operating Profit to Total Assets Ratio:(EBIT/Total Assets) X 100
This ratio helps in finding out the profit that is generated by the bank through using its assets. High ratio indicates proper utilization of assets.

c) Net Interest to Total Income Ratio: (Net Interest/Total Income) X 100
This ratio indicates the proportion of income generated from interests out of the total income of the bank. Higher ratio is chosen.

d) Net Profit to Total Assets Ratio: (Net Profit/Total Assets) X 100
This ratio indicates the profit generated by the bank through using its assets after paying interests and taxes.

5) Liquidity indicates a banks capability to carry out its short-term obligations. It is generally assessed in terms of overall asset and liability management. Following ratios are calculated here:

a) Liquidity Ratio: (Liquid Assets/Total Assets) X 100
It indicates the ability of a bank to meet its financial obligation when they are due. A higher ratio is always preferred.

b) Liquid Assets to Total Deposits Ratio: (Liquid Assets/Total Deposits) X 100
This ratio measures the capability of a bank to convert its deposits into cash. Higher ratio is chosen.

c) Current Ratio: Current Assets/ Current Liabilities
This indicates a banks capability to pay back its short-term obligations. A ratio above 1 is always preferred.

d) Credit Deposit Ratio: (Total Advances/Total Deposits) X 100
This ratio measures the amount of loan given by the banks against the total deposits a bank has with it. Higher ratio is preferred.

6) Sensitivity to Market Risk refers to the change in market conditions that could adversely impact earning or capital. It consists risk associated with change in interest rates, foreign exchange rates, equity price etc. Risk sensitivity is mostly measured in terms of management's ability to measure and control market risk.

Analysis of 3 Private banks and 3 Public Banks in India using CAMELS model
Data Collection and Analysis: Data has been collected for last 5 year (2015-2019) through secondary sources viz. annual reports, journals, economic times etc.

1) Capital Adequacy

Name of the Bank	CAR	Rank	Debt to Equity Ratio	Rank	Advances to Assets Ratio	Rank	Govt. Securities to Total Invest.	Rank	Group Average	Group Rank
HDFC Bank	15.76	2	8.1	2	64.68	1	79.45	3	2	1
Axis Bank	15.55	3	9.44	3	62.49	2	68.82	6	3.5	3
Kotak Mahindra Bank	17.20	1	5.06	1	60.58	3	79.35	4	2.25	2
SBI	12.71	5	13.98	4	58.01	5	78.88	5	4.75	5
Bank of Baroda	12.90	4	14.92	5	57.63	6	86.28	2	3.5	4
Bank of India	12.40	6	16.44	6	58.44	4	87.70	1	3.5	4

Analysis

It is evident that HDFC Bank has ranked 1st with the highest capital adequacy ratio with Kotak Mahindra Bank closely ranked 2nd. All the banks have fulfilled RBI's 9% CAR requirement. Kotak Mahindra Bank is using the least debt in their operations and has the highest CAR. Whereas, HDFC bank is very aggressive in lending with the highest Advances to Assets ratio. Both the public sector banks Bank of Baroda and Bank of India have heavily invested in government securities which carries the lowest risk. Based on the average of all the parameters HDFC Bank has been ranked 1 in Capital Adequacy.

2) Asset Quality

Name of the Bank	NNPA to Total Assets	Rank	GNPA to Total Assets	Rank	NNPA to Net Advances Ratio	Rank	GNPA to Net Advances Ratio	Rank	Group Average	Group Rank
HDFC Bank	0.21	1	0.72	1	0.33	1	1.12	1	1	1
Axis Bank	1.20	3	2.85	3	2.73	3	4.55	3	3	3
Kotak Mahindra Bank	0.63	2	1.44	2	1.00	2	2.26	2	2	2
SBI	2.17	4	4.49	4	3.68	4	7.53	4	4	4
Bank of Baroda	2.37	5	5.70	5	4.08	5	9.80	5	5	5
Bank of India	3.70	6	8.00	6	7.85	6	13.93	6	6	6

Analysis

It is evident that HDFC Bank by far in all the banks above has the best Asset Quality and hence has been ranked 1st. Kotak Mahindra Bank follows it at 2nd position in all the parameters. Bank of India has the worst Asset Quality among the above banks its gross non-performing asset to net advance ratio has crossed double digits to 13.93. All the private sector banks have performed well than the public sector banks.

3) Management Efficiency

Name of the Bank	Business per Employee	Rank	Profit per Employee	Rank	Return on Assets	Rank	Return on equity	Rank	Group Average	Group Rank
HDFC Bank	14.12	5	0.15	1	1.69	1	16.04	1	2	1
Axis Bank	14.79	4	0.09	2	0.89	3	9.46	3	3	2
Kotak Mahindra Bank	8.06	6	0.09	2	1.50	2	11.32	2	3	2
SBI	16.70	3	0.03	3	0.25	4	4.17	4	3.5	3
Bank of Baroda	19.35	1	-0.01	4	-0.08	5	-1.22	5	3.75	4
Bank of India	18.76	2	-0.05	5	-0.57	6	-8.75	6	4.75	5

Analysis

The above table shows the Management Efficiency where Bank of Baroda has the best business per employee followed by Bank of India. Kotak Mahindra Bank has the lowest business per employee i.e. they have more employees than the job among the selected banks.

HDFC Bank tops in profit per employee and the other two parameters as well whereas Bank of India scores the lowest in all the other parameters.

4) Earning Quality

Name of the Bank	Dividend Payout Ratio	Rank	Operating Profit to Total Assets Ratio	Rank	Net Interest to Total Income Ratio	Rank	Net Profit to Total Assets Ratio	Rank	Group Average	Group Rank
HDFC Bank	18.52	1	7.19	1	40.37	1	1.70	1	1	1
Axis Bank	12.86	2	7.00	3	32.54	3	0.88	3	2.75	2
Kotak Mahindra Bank	2.30	6	7.12	2	38.03	2	1.51	2	3	3
SBI	12.12	3	5.73	5	30.08	4	-0.13	5	4.25	4
Bank of Baroda	6.70	4	5.71	6	29.12	5	0.24	4	4.75	5
Bank of India	3.30	5	5.92	4	25.80	6	-0.57	6	5.25	6

Analysis

The above data shows the Earning Quality of banks. It is clearly evident that HDFC Bank has the best Earning Quality and ranks 1st in all the parameters. Axis bank has consistent performance in this parameter. Kotak Mahindra Bank has performed well in all the parameters except dividend payout ratio where it stands last. SBI has performed low in Net Profit to Total Assets Ratio. Bank of Baroda and Bank of India have been placed as the bottom two banks due to weak Earning Quality.

5) Liquidity

Name of the Bank	Liquid Assets to Total Assets	Rank	Liquid Assets to Total Deposits	Rank	Credit Deposit Ratio	Rank	Current Ratio	Rank	Group Average	Group Rank
HDFC Bank	7.08	5	9.43	4	84.32	3	0.052	3	3.75	2
Axis Bank	7.44	4	7.44	6	90.97	1	0.080	2	3.25	1
Kotak Mahindra Bank	7.48	3	10.33	4	87.73	2	0.048	4	3.25	1
SBI	6.55	6	8.53	5	79.11	4	0.082	1	4	3
Bank of Baroda	17.33	1	20.41	1	68.75	6	0.042	5	3.25	1
Bank of India	14.99	2	17.61	2	70.12	5	0.048	4	3.25	1

Analysis

It is evident that Bank of Baroda has the highest liquid assets with respect to total assets and total deposits followed by Bank of India. SBI has the lowest liquid assets when compared to total assets and Axis Bank has the lowest liquid assets when compared to total deposits. Overall the public sector banks have performed well in this parameter than their private counterparts. Axis Bank, Kotak Mahindra Bank, Bank of Baroda and Bank of India are joint 1st rank holder on this parameter.

Overall Ranking

Name of the Bank	Capital Adequacy	Assets Quality	Management Efficiency	Earning Quality	Liquidity	Group Average	Group Rank
HDFC Bank	2	1	2	1	3.75	1.95	1
Axis Bank	3.5	3	3	2.75	3.25	3.1	3
Kotak Mahindra Bank	2.25	2	3	3	3.25	2.7	2
SBI	4.75	4	3.5	4.25	4	4.1	5
Bank of Baroda	3.5	5	3.75	4.75	3.25	3.95	4
Bank of India	3.5	6	4.75	5.25	3.25	4.55	6

Analysis

The above data shows the overall ranking of the six banks using CAMEL model from 2015 to 2019. HDFC Bank has been ranked 1 as it has the best ratios using the CAMEL model. Kotak Mahindra Bank has been ranked 2nd followed by AXIS Bank. Overall every private sector bank has performed well compared to the public sector banks.

II. Conclusion

Due to the changes in the banking sector in the past few years all the central banks have improvised their techniques and quality of supervision. Risk is both opportunity and threat and they adversely impact the profitability of banks if not supervised properly. From the above study it is evident that the private banks in India are far more better performers than the public banks.

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Anubhav Kumar. "Risks in Indian Banking Sectors and role of RBI: an Analysis using CAMELS Model.". *IOSR Journal of Business and Management (IOSR-JBM)*, 22(4), 2020, pp. 12-18.